

CLAIMS

1-Device (3) for the installation of a nucleus prosthesis characterized in that it includes:

a nucleus prosthesis (1) made up of two parts made of a deformable elastic material

5 an insertion assembly (2)

the elastic strain of the nucleus prosthesis (1) making possible its insertion in the vertebral cavity due to the insertion assembly(2) which before insertion is a part of the device (3) and which can be removed thereafter.

2-Device (3) for the installation of a prosthesis (1) according to claim 1 characterized in that the
10 nucleus prosthesis (1) comprises two parts:

- a deformable female part (12) which is preferably a hollow sphere flattened at the poles, forming a central cavity (121) connected to a rigid stem (21) by a flexible connection (124), the central cavity (121) comprising an opening (122), which is also deformable,

15 - a male part (11) which is an elastically deformable sphere (111), in order to take a shape mating with the central cavity (121) due to the deformable opening (122), in order to form an elastic block which cannot be expelled from its housing when the prosthesis is subjected to the imposed mechanical forces.

3-Device (3) for the installation of a prosthesis (1) according to claims 1 and 2 characterized in that its insertion means (2) are made of one rigid stem (21) connected to the female part (12) by the
20 flexible connection (124) of tubes (23), (24), and (25), the tubes being used to introduce the nucleus prosthesis (1) into the to-be-filled intervertebral cavity.

4-Device (3) for the installation of a nucleus prosthesis (1) according to one of the preceding claims characterized in that the female part (12) has a circular opening (122) cutting a sector through the thickness of the means (12), the opening (122) having a constriction (123) that prevents expulsion after the introduction of the male part (11).

- 5 5-Device (3) for the installation of a nucleus prosthesis (1) according to one of claims 1 to 4 characterized in that the female part (12) has a slit (126) making a sectorial cut through the thickness of the means (12), and having a constriction (123) that prevents expulsion after the introduction of the male part (11).

- 6-Device (3) for the installation of a nucleus prosthesis (1) according to any of the preceding claims
10 4 or 5 characterized in that the male part (11) comprises in certain cases and preferably at its end a fixation (116) allowing the passage of a screw for fixing on the bone, this being necessary, in certain cases, to ensure good anchoring of the prosthesis (1).

7-Device (3) for the installation of a nucleus prosthesis (1) according to claim 1 characterized in that the nucleus prosthesis 1 is elastically deformable and includes two parts:

- 15 a female part (12),
a male part (11),

- the part (12) having the shape of an open ring to let in the male part (11), comprising a thread (127f) and receiving a guidance stem (21) whose end is threaded, the aforementioned rigid stem (21) also allowing the male part (11) of the prosthesis (1) to be freely guided until its insertion
20 and then to be able to withdraw the stem (21) by simple unscrewing, once the prosthesis (1) is in place.

8-Device (3) for the installation of a nucleus prosthesis according to claim 7 characterized in that: the means (12) includes an opening (122) allowing the introduction of the male part (127a) of the means (11)

5 the means (11) preferably has the shape of a champagne cork with the role of a one way device comprising a deformable fully spherical head (111) as well as, if necessary, a slightly extending cylindrical body, and placed at the periphery of the ring.

9-Device (3) for the installation of a nucleus prosthesis according to claim 8 characterized in that the anchoring of the male part (11) in the female part is ensured by a backstop system which overlaps the male parts (128m) and the female part (128f), the aforementioned system being
10 integrated in the shape of the parts during manufacture.

10-Device (3) for the installation of a nucleus prosthesis according to claim 8 characterized in that this spherical head of the nucleus prosthesis (1) has a male part which slightly exceeds the thickness of the ring which has the function, during the dynamic stresses, of initially compressing the spherical part of the aforementioned prosthesis (1), by increasing by pressure the one way
15 function, which makes expulsion of the male part impossible.

11-Device (3) for the installation of a nucleus prosthesis according to any preceding claims 1 to 8 characterized in that its prosthesis (1) possesses in its female part an insert which makes it possible, by X ray visualization, to check the stability of the aforementioned prosthesis over time as well as disassembly of the stem (21) once the prosthesis is installed.